IN THE SPECIFICATION

Please amend paragraphs [007], [009], [091], [105] and [110] of the specification as shown below, in which deletions are indicated with strikethrough and/or double brackets, and added terms are indicated with underscoring.

[007] According to an aspect of the present invention, a method is provided, which is applied to measurement for a position of an object according to an image of the object captured by a camera unit. The method includes the following steps: calculating a discrepancy of an incident beam of light penetrating a lens system of the camera unit relative to an optical center of the lens system, [[and]] compensating the position of the object according to the discrepancy, wherein the incident beam of light is directly projected from the object to the lens system; and wherein said discrepancy is a minimum distance between the optical center and said incident beam of light.

[009] According to another aspect of the present invention, a method is provided, which is applied to measurement for a position of an object with a combination of an image of the object captured by a camera unit and calibration information. The calibration information is prepared in advance in such a manner that a position of a measurement pixel of the image is correlated with a direction of an incident beam of light and a displacement from a reference point to the incident beam. The method includes the following steps: (a) incorporating the image ~~without any mask restricting an incident beam of light~~, (b) detecting a position of a pixel representative of the object in the image incorporated at step (a); and (c) calculating the position of the object according to the direction and the displacement of the incident beam, which are obtained from the calibration information with reference to the position of the pixel detected at step (b).

[091] Referring to FIG.10, description is given to a position measurement apparatus. FIG.10 is a block diagram illustrating the structure of position measurement apparatus according to the

present invention. A position measurement apparatus 1 can measure a three-dimensional position of an object OB (marker M) according to an image captured by a camera unit C, including a set of two cameras C1 and C2 (non-pin-hole cameras)~~, without any mask restricting an incident beam of light~~. The position measurement apparatus 1 includes an image input module 10, a pixel position module 20, a storage module 30 and a calculation module 40. The marker M, which is for indicating a spot for detection, includes a seal with a given color and shape, a light emitting diode of infrared beam and the like.

[105] A direction of incident beam of light, which impinges on the position of pixel for the object OB in the image captured by the camera C1, is defined as an azimuth α_1 and an elevation γ_1, which are obtained from the calibration table 31a. ~~In the method according to this embodiment, the camera captures the image without any mask restricting the incident beam of light.~~ Similarly, the other direction of incident beam of light associated with the camera C2 is defined as an azimuth α_2 and an elevation γ_2, which are obtained from the calibration table 31b. It is noted that the elevation γ_2 is not shown in FIG.13 because it is not used for a calculation of position.

[110] A position measurement apparatus 200 shown in FIG.14, which has a camera unit C capturing an image of a collimated beam of light that originates from a laser unit 250 and impinges on an object OB~~, without any mask restricting the incident beam of light~~, can determine a three-dimensional position of the object OB according to the image. The apparatus 200 swings the direction of beam of light upward-downward and right-left so that the position of object OB can be determined according to three-dimensional measurement conducted at a large number of points.